

REMARKS

Claims 1, 3-5, 7 and 8 are pending and under consideration in the above-identified application, and Claims 2 and 6 were previously cancelled.

In the Office Action, Claims 1, 3-5, 7 and 8 were rejected.

In this Amendment, Claims 1, 3-5, 7 and 8 are amended. No new matter has been introduced as a result of this Amendment.

Accordingly, Claims 1, 3-5, 7 and 8 are at issue.

I. 35 U.S.C. § 112 Indefiniteness Rejection of Claims 1, 4 and 5

Claims 1, 4 and 5 were rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response, Claims 1, 4 and 5 have been amended as required by the Examiner.

Accordingly, Applicants respectfully request that this claim rejection be withdrawn.

II. 35 U.S.C. § 112 Indefiniteness Rejection of Claims 3, 7 and 8

Claims 3, 7 and 8 were rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response, Claims 3, 7 and 8 have been amended as required by the Examiner.

Accordingly, Applicants respectfully request that this claim rejection be withdrawn.

III. 35 U.S.C. § 103 Obviousness Rejection of Claims 1, 3-5, 7

Claims 1, 3-5, 7 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fukai et al.* ("*Fukai*"), JP 2001-122628. Applicant respectfully traverses this rejection.

Claim 1 is directed to a cathode material. The cathode material comprises a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al). A composition

ratio of lithium to the total of manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{Al}_{1-b-c} \text{O}_d$ (where the values of a, b, c, and d are within the ranges of $1.0 < a < 1.6$, $0.5 < b+c < 1$, $1.8 < d < 2.5$).

The claimed oxide includes Li, Mn, and Cr and is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{Al}_{1-b-c} \text{O}_d$. Thus, the compositions c of Cr and $1-b-c$ of Al are dependent on the composition b of Mn. As Mn is a required element of the claimed oxide, then its composition b is always greater than zero. That is, the compositions of Cr and Al are never direct complement of one another.

This is clearly unlike *Fukai*. The Examiner states that *Fukai* teaches a lithium ion secondary battery comprising a lithium-manganese multi-component oxide particulate positive electrode active material composition. The oxide of *Fukai* has the formula $\text{Li}_x \text{Mn}_{1-y-z} \text{M}_y \text{N}_z \text{O}_a$ where M denotes Cr and/or Al and N may be Mg or Ti. That is, *Fukai* teaches that M is equal to $(\text{Cr}_m \text{Al}_{1-m})$ with m being a number between 0 and 1. As such, when they coexist the combined composition of Cr and Al is equal to $(\text{Cr}_m \text{Al}_{1-m})_y$. Thus, in *Fukai* the compositions of Cr and Al are direct complements of one another with respect to the composition y. In contrast, Claim 1 requires that the compositions of Cr and Al never be direct complements of one another, but are required to be dependent on the composition b of Mn which is an essential element of the claimed oxide.

As such, Claim 1 is patentable over *Fukai*.

Independent Claims 4 and 5, which recite the same distinguishable limitation as that of Claim 1, are also patentable over *Fukai*, for at least the same reasons.

Independent Claims 3, 7 and 8 recite that the claimed complex oxide is represented by a chemical formula $\text{Li}_{1+e} (\text{Mn}_f \text{Cr}_g \text{M}_{1-f-g})_{1-e} \text{O}_h$, where M is at least one kind of element selected from the group consisting of titanium, magnesium and aluminum. That is, when M is only aluminum, then this formula becomes as follows $\text{Li}_{1+e} (\text{Mn}_f \text{Cr}_g \text{Al}_{1-f-g})_{1-e} \text{O}_h$. As such, here again

the compositions of Cr and Al are never direct complements of one another, but are required to be dependent on the composition b of Mn which is an essential element of the claimed oxide. As stated above, in *Fukai* the compositions of Cr and Al are direct complements of one another with respect to the composition y. As such, *Fukai* fails to teach or suggest the claimed distinguishable relationship between of Cr and Al.

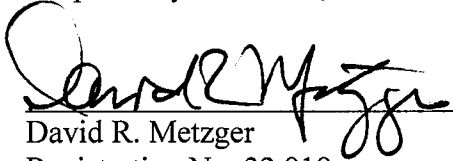
Thus, Claims 3, 7 and 8 are patentable over *Fukai*.

Accordingly, Applicant respectfully requests that these claim rejections be withdrawn.

IV. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

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Respectfully submitted,


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